

CLAIMS

What is claimed is:

1. A method of labeling a semiconductor device component, comprising:
providing at least one substrate;
disposing at least one layer of an unconsolidated material over a surface of said at least one substrate; and
at least partially consolidating a plurality of selected areas of said at least one layer in a sequential fashion to form a corresponding layer of a mark over said surface.
2. The method of claim 1, wherein said disposing comprises disposing at least one layer of an uncured polymer.
3. The method of claim 2, wherein said at least partially consolidating comprises at least partially curing polymer at said plurality of selected areas.
4. The method of claim 2, wherein said disposing comprises disposing at least one layer of an uncured photopolymer.
5. The method of claim 4, wherein said at least partially consolidating comprises at least partially curing photopolymer at said plurality of selected areas.
6. The method of claim 5, wherein said at least partially curing comprises directing a UV laser over said plurality of selected areas of said at least one layer.
7. The method of claim 6, wherein said at least partially curing comprises curing at least edges of said corresponding layer of said mark.

8. The method of claim 7, further comprising further curing uncured photopolymer bounded by said edges.

9. The method of claim 8, wherein said further curing comprises thermally curing said uncured photopolymer.

10. The method of claim 8, wherein said further curing comprises subjecting said uncured photopolymer to UV radiation.

11. The method of claim 7, wherein said curing at least edges comprises curing at least an outer periphery of said mark.

12. The method of claim 11, wherein said curing at least edges further comprises curing an inner periphery of said mark.

13. The method of claim 1, wherein said at least partially consolidating comprises sequentially consolidating a plurality of superimposed, contiguous layers of unconsolidated material and securing adjacent ones of said plurality of layers to one another.

14. A method of labeling a semiconductor device component, comprising:
placing at least one substrate in a horizontal plane; and
stereolithographically fabricating at least one mark on said at least one substrate.

15. The method of claim 14, wherein said stereolithographically fabricating comprises:
disposing a layer comprising unconsolidated material on said substrate; and
at least partially consolidating unconsolidated material in a plurality of selected regions of said layer in a sequential fashion.

16. The method of claim 15, wherein said stereolithographically fabricating further comprises:

repeating said disposing and said at least partially consolidating at least once.

17. The method of claim 14, further comprising:
recognizing a location and an orientation of said at least one substrate.

18. The method of claim 17, further comprising storing data including at least one physical parameter of said at least one substrate and of said at least one mark in computer memory, and using the stored data in conjunction with a machine vision system to recognize the location and the orientation of said at least one substrate.

19. The method of claim 18, further including storing in computer memory at least one parameter of another structure to be associated with said at least one substrate.

20. The method of claim 18, further comprising using the stored data, in conjunction with said machine vision system, to effect said stereolithographically fabricating said at least one mark.

21. The method of claim 17, further comprising recognizing the location of said at least one substrate on which said at least one mark is to be fabricated.

22. The method of claim 17, further including securing said at least one substrate to a carrier prior to said placing said at least one substrate in said horizontal plane.